



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/688,558	10/16/2000	Peter J. Anslow	537-1026	3391

7590 05/21/2004  
William M. Lee, Jr.  
Lee, Mann, Smith, McWilliams, Sweeney & Ohlson  
P. O. Box 2786  
Chicago, IL 60690-2786

EXAMINER

PHAN, HANH

ART UNIT	PAPER NUMBER
----------	--------------

2633

DATE MAILED: 05/21/2004

8

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/688,558

Applicant(s)

ANSLOW ET AL.

Examiner

Hanh Phan

Art Unit

2633

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 16 June 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 03/08/2004.

#### ***Double Patenting***

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claim 18 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-18 of copending Application No. 09/804,330 (Heath et al.). Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations recited in claim 18 of the instant application are encompassed by claims 1-18 of the copending Application No. 09/804,330 (Heath et al.).

Regarding claim 18, Heath discloses a WDM optical communications network comprising a plurality of nodes and a plurality of amplifiers between the nodes, each node comprising an optical switching arrangement for performing routing of signals

across the network, wherein each node is provided with an apparatus for determining the Q-factor of individual channels of the WDM optical signal, and wherein each optical amplifier is provided with optical spectrum analysis apparatus (see claims 1-9 of the copending Application No. 09/804,330).

Ransford differs from claim 18 in that he fails to teach each node comprising an optical switching arrangement for performing routing of signals across the network.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3-5, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ransford et al (US Patent No. 6,532,087) in view of Ono et al (US Patent No. 5,896,392).

Regarding claims 1 and 4, referring to figures 2-4, Ransford discloses an apparatus for determining an error ratio of individual channels of a WDM optical signal, comprising:

a wavelength-selective filter (i.e., tunable band pass filter 410, Figs. 3 and 4) for separating the individual channels of the WDM signal (col. 10, lines 13-53);

a measurement circuit (i.e., Q detection module 350, Figs. 3 and 4) for measuring an error ratio of one channel using a decision threshold level, the measurement circuit (Q detection module 350) being operable to cycle through all channels, taking an error ratio measurement for each channel in sequence with a predetermined decision threshold level (col. 10, lines 4-67, col. 11, lines 1-22, col. 5, lines 40-67, col. 6, lines 12-25, and col. 9, lines 17-67); and

control circuitry (i.e., microprocessor 65, Fig. 2) for altering the decision threshold level for successive cycles of the measurement circuit (col. 6, lines 12-25).

Ransford differs from claims 1 and 4 in that he fails to teach wherein measured error ratios for each channel using different decision thresholds are combined to determine a channel error ratio. However, Ono in US Patent No. 5,896,392 teaches measured error ratios for a channel using different decision thresholds are combined to determine a channel error ratio (Figs. 1, 3A and 3B, col. 6, lines 3-67, col. 7, lines 1-27 and col. 8, lines 7-65). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the measured error ratios for each channel using different decision thresholds are combined to determine a channel error ratio as taught by Ono in the system of Ransford. One of ordinary skill in the art would have been motivated to do this since Ono suggests in column 6, lines 3-67, col. 7, lines 1-27 and col. 8, lines 7-65 that using such the measured error ratios for a channel using different decision thresholds are combined to determine a channel error ratio have advantage of allowing determining an error ratio of channel and the Q value accurately and providing an evaluation of received signal quality.

Regarding claims 3 and 5, the combination of Ransford and Ono teaches the measurement circuit measures an error ratio by monitoring the channel with the applied decision threshold level for a predetermined time period, which time period is constant for all channels and for all decision threshold levels (Figs. 2 and 4 of Ransford and Fig. 1 of Ono).

Regarding claim 7, the combination of Ransford and Ono teaches the error ratio is obtained by comparing the measured signal using the applied decision threshold with the measured signal using a default decision threshold (Fig. 1 of Ono, col. 6, lines 3-67, col. 7, lines 1-27 and col. 8, lines 7-65).

Regarding claim 8, the combination of Ransford and Ono teaches the error ratio is obtained by using a data structure embedded in the channel data (col. 6 of Ransford, lines 45-67 and col. 7, lines 1-15 and Fig. 1 of Ono).

6. Claims 2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ransford et al (US Patent No. 6,532,087) in view of Ono et al (US Patent No. 5,896,392) and further in view of Takeshita et al (US Patent No. 6,538,779).

Regarding claims 2 and 6, Ransford as modified by Ono teaches all the limitations of the claimed invention as set forth under the rejection in claims 1 and 4 above except fails to teach an error warning indicator which provides an error warning when a measured error ratio exceeds the expected error ratio for the particular decision threshold being applied by a predetermined amount. However, Takeshita in US Patent No. 6,538,779 teaches an error warning indicator which provides an error warning when

Art Unit: 2633

a measured error ratio exceeds the expected error ratio for the particular decision threshold being applied by a predetermined amount (Figs. 2 and 3, col. 2, lines 35-44, col. 4, lines 30-67 and col. 5, lines 1-32). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the error warning indicator which provides an error warning when a measured error ratio exceeds the expected error ratio for the particular decision threshold being applied by a predetermined amount as taught by Takeshita in the system of Ransford modified by Ono. One of ordinary skill in the art would have been motivated to do this since Takeshita suggests in column 2, lines 35-44, col. 4, lines 30-67 and col. 5, lines 1-32 that using such the error warning indicator which provides an error warning when a measured error ratio exceeds the expected error ratio for the particular decision threshold being applied by a predetermined amount have advantage of allowing monitoring the quality of the light signal and evaluation of received signal quality.

7. Claims 9, 11, 12, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ransford et al (US Patent No. 6,532,087) in view of Ono et al (US Patent No. 5,896,392) and further in view of Fujita et al (US Patent No. 6,570,685).

Regarding claims 9 and 14, Ransford as modified by Ono teaches all the limitations of the claimed invention except fails to teach each node comprising an optical switching arrangement for performing routing of signals across the network. However, Fujita teaches each node comprising an optical switching arrangement for performing routing of signals across the network (Figs. 1-6, col. 9, lines 42-67 and col. 10, lines 1-

Art Unit: 2633

53). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the each node comprising an optical switching arrangement for performing routing of signals across the network as taught by Fujita in the system of Ransford modified by Ono. One of ordinary skill in the art would have been motivated to do this since Fujita suggests in column 9, lines 42-67 and col. 10, lines 1-53 that using such each node comprising an optical switching arrangement for performing routing of signals across the network has advantage of allowing distributing the signals from the central office to the user terminals.

Regarding claims 11 and 15, the combination of Ransford, Ono and Fujita teaches the measurement circuit (i.e. Q-detection module 350, Figs. 2-4) measures an error ratio by monitoring the channel with the applied decision threshold level for a predetermined time period, which time period is constant for all channels and for all decision threshold levels (col. 10 of Ransford, lines 4-59).

Regarding claim 12, the combination of Ransford, Ono and Fujita teaches wherein each node is further provided with an apparatus (i.e., Q detection module 350, Figs. 3 and 4 of Ransford) for determining an error ratio.

8. Claims 10 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ransford et al (US Patent No. 6,532,087) and Ono et al (US Patent No. 5,896,392) in view of Fujita et al (US Patent No. 6,570,685) and further in view of Takeshita et al (US Patent No. 6,538,779).



Regarding claims 10 and 16, Ransford as modified by Ono and Fujita teaches all the limitations of the claimed invention as set forth under the rejection in claims 9 and 14 above except fails to teach an error warning indicator which provides an error warning when a measured error ratio exceeds the expected error ratio for the particular decision threshold being applied by a predetermined amount. However, Takeshita in US Patent No. 6,538,779 teaches an error warning indicator which provides an error warning when a measured error ratio exceeds the expected error ratio for the particular decision threshold being applied by a predetermined amount (Figs. 2 and 3, col. 2, lines 35-44, col. 4, lines 30-67 and col. 5, lines 1-32). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the error warning indicator which provides an error warning when a measured error ratio exceeds the expected error ratio for the particular decision threshold being applied by a predetermined amount as taught by Takeshita in the system of Ransford modified by Ono and Fujita. One of ordinary skill in the art would have been motivated to do this since Takeshita suggests in column 2, lines 35-44, col. 4, lines 30-67 and col. 5, lines 1-32 that using such the error warning indicator which provides an error warning when a measured error ratio exceeds the expected error ratio for the particular decision threshold being applied by a predetermined amount have advantage of allowing monitoring the quality of the light signal and evaluation of received signal quality.

9. Claims 13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ransford et al (US Patent No. 6,532,087) and Ono et al (US Patent No. 5,896,392)

Art Unit: 2633

in view of Fujita et al (US Patent No. 6,570,685) and further in view of Shimokawa et al (US Patent No. 6,445,471).

Regarding claims 13 and 18, Ransford as modified by Ono and Fujita teaches all the limitations of the claimed invention except fails to teach an optical spectrum analyzer. However, Shimokawa in US Patent No. 6,445,471 teaches an optical spectrum analyzer (Figs. 2-4, 6, 7 and 12, col. 1, lines 40-67, col. 2, lines 1-63). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the optical spectrum analyzer as taught by Shimokawa in the system of Ransford modified by Ono and Fujita. One of ordinary skill in the art would have been motivated to do this since Shimokawa suggests in column 1, lines 40-67, col. 2, lines 1-63 that using such an optical spectrum has advantage of allowing measuring the signal to noise ratio of the signal and monitoring the quality of the signal and evaluation of received signal quality.

### ***Response to Arguments***

10. Applicant's arguments with respect to claims 1-16 and 18 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (703)306-5840.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (703)305-4729. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

A handwritten signature in cursive script, appearing to read 'Hanh Phan', is written over a horizontal line.

Hanh Phan

05/12/2004